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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/583,306	04/24/2007	Colin John Jones	237P003USWO	4474

23322 7590 07/02/2009

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EXAMINER	
ALLEN, CAMERON J	
ART UNIT	**PAPER NUMBER**
1797	

MAIL DATE	DELIVERY MODE
07/02/2009	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/583,306	JONES ET AL.	
	Examiner	Art Unit	
	CAMERON J. ALLEN	1797	

– The MAILING DATE of this communication appears on the cover sheet with the correspondence address –

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *14 October 2008*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-21* is/are pending in the application.

4a) Of the above claim(s) *15-21* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-14* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *11/21/2008*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

Applicant's arguments with respect to claims 1-14 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was

not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1, 2, and 4-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Miller et al. US 2003/0150789 A1 in further view of Aoki US 4,040,134.

Regarding claim 1, Miller teaches an apparatus capable of reducing the liquid content of a material comprising a particulate/liquid dispersion or suspension, the apparatus comprising:

A receiving zone to contain the material (0010), at least one pair of electrodes spaced apart within the receiving zone (0011 and 0012), having a potential difference there across and hence across the material in use to drive electro-kinetic dewatering (0021), and a drain means to enable removal of water (0031), wherein at least one of the electrodes comprises a textile or other synthetic material at least in part associated with a conductor(0035), but does not disclose said conductor comprising a plurality of elongate conducting elements woven into the textile. Aoki does disclose the use of a belt made of rod or metal plates used to dewater material by heat treatment. It would have been obvious to one of ordinary skill in the art at the time of the invention to use the belt in the Aoki reference, since it would yield the added benefit of conduction. (Column 17 lines 47-60)

Regarding claim 2, Miller in view of Aoki teaches an apparatus in accordance

with claim 1 for reducing the liquid content of a material comprising a dispersion or suspension of inorganic particles being a byproduct of mining, manufacturing or other industrial processes. (0047) *The examiner interprets the sludge to be a byproduct of an industrial process, such as waste water treatment.*

Regarding claim 3, Miller in view of Aoki teaches an apparatus in accordance with claim 1 but does not teach wherein the second electrode is also a conducting electro kinetic textile or other synthetic material. It would have been obvious to one of ordinary skill in the art at the time of the invention to use a synthetic material for the second electrode, since it has been held to be within the general skill of a worker in the art to select a known material on the basis on its suitability for the intended use as a matter of obvious design choice. Miller mentions the use of synthetic material for an electrode in paragraph 35.

Regarding claim 4, Miller in view of Aoki teaches an apparatus in accordance with claim 3 wherein the drain is formed as an integral structure with the conducting electrokinetic textile or other synthetic material electrode. (0034 and 0035)

Regarding claim 5, Miller in view of Aoki teaches an apparatus in accordance with claim 4 wherein the receiving zone is at least partly defined by a filtration membrane permeable to the liquid but impermeable to at least some and more preferably substantially all of the particulate solids contained within the material, which filtration membrane comprises a textile or other synthetic material at least in part associated with a conductor so as to constitute where so associated the said conducting electro kinetic textile or other synthetic electrode.(0035)

Regarding claim 6, Miller in view of Aoki teaches an apparatus in accordance with claim 5 wherein, the filter membrane is a sheet-like material having a primarily polymeric base structure. (0035)

Regarding claim 7, Miller in view of Aoki teaches an apparatus in accordance with claim 6 wherein the filter membrane includes conducting elements in a composite material composition. (0035)

Regarding claim 8, Miller in view of Aoki teaches an apparatus in accordance with claim 5 wherein the apparatus further comprises a separate conductor so disposed within the apparatus as to be caused during use to come into contact with the filtration membrane material over at least a part of the area thereof. (0039) *The examiner interprets conductor 14 to come in contact with the filter material.*

Regarding claim 9, Miller teaches an apparatus in accordance with claim 5 wherein the electrode at least partly comprises a conductor, either in that the material is inherently conducting or in that it integrally incorporates conductive material into its structure. (0034 and 0035) The examiner interprets metal to be inherently conducting.

Regarding claim 10, Miller in view of Aoki teaches an apparatus in accordance with claim 9 but does not teach wherein the electrode comprises a conducting, geosynthetic material. It would have been obvious to one of ordinary skill in the art at the time of the invention to use geosynthetic material for the electrode, since it has been held to be within the general skill of a worker in the art to select a known material on the basis on its suitability for the intended use as a matter of obvious design choice. Miller mentions the use of synthetic material for an electrode in paragraph 35.

Regarding claim 14, Miller in view of Aoki teaches an apparatus in accordance with claim 10 wherein the electrode comprises inherently conducting material, for example being polymeric material loaded with conducting particles. (0034 and 035)

Claims 10-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Miller in view of Aoki as applies above in claim 9 in further view of Netlon Limited GB 2,327,686.

Regarding claim 10, Miller in view of Aoki teaches an apparatus in accordance with claim 9 but does not teach wherein the electrode comprises a conducting, geosynthetic material. The Netlon limited reference teaches the use of geosynthetic material in combination with electro kinetics. (Page 1 line 1-17) It would have been obvious to one of ordinary skill in the art at the time of the invention to replace the synthetic material for the electrode in the Miller reference with the geosynthetic material in the Netlon reference, since it has been held to be within the general skill of a worker in the art to select a known material on the basis on its suitability for the intended use as a matter of obvious design choice. The geosynthetic material is known to be effective, so it would be an obvious choice of available materials.

Regarding claim 11, Miller in view of Aoki in further view of the Netlon reference teaches an apparatus in accordance with claim 10 wherein the electrode comprises a generally inherently non-conductive geosynthetic material in association with at least one metallic or non-metallic conducting dement to produce a composite conducting geosynthetic material.

Regarding claim 12, Miller in view of Aoki in further view of the Netlon reference teaches an apparatus in accordance with claim 11 wherein the electrokinetic material comprises a woven or non-woven polymeric material incorporating a plurality of elongate conducting elements there within, in particular in one or more parallel arrays. (Miller 0035)(Netlon Page 1 1-17)

Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Miller in view of Aoki in further of view of Netlon Limited GB 2,327,686, and Kunkle et al. (US 4,680,104).

Regarding claim 13, Miller in view of Aoki in further view of the Netlon reference teaches an apparatus in accordance with claim 11 but does not teach wherein a conducting element comprises metal coated in mixed metal oxide. Kunkle does teach the use of a conducting element comprises metal coated in mixed metal oxide. It would have been obvious to one of ordinary skill in the art to modify Miller in view of Netlon with Kunkle and use a conducting element comprising of metal coated in mixed metal oxide since it is known in the art that metal oxides are effective in dewatering. It is within the ordinary skill of one in the art to use methods known to work. (Example US 4,680,104 Kunkle et al. Column 8 line 55-60)

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to CAMERON J. ALLEN whose telephone number is (571)270-3164. The examiner can normally be reached on M-Th 9-7pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Walter Griffin can be reached on 571-272-1447. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

CJA

/Walter D. Griffin/
Supervisory Patent Examiner, Art Unit 1797